

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

**Appl. No.** : TBA (Divisional of S.N. 09/902,878)  
**Applicant** : Edward G. Combs, *et al.*  
**Filed** : Herewith (March 18, 2004)  
**TC/A.U.** : TBA  
**Examiner** : TBA

**Docket No.** : 36080-00802  
**Customer No.** : 27171  
**Title** : *Method of Manufacturing an Enhanced Thermal Dissipation Integrated Circuit Package*

**INFORMATION DISCLOSURE STATEMENT**

**COMMISSIONER FOR PATENTS**  
**P.O. Box 1450**  
**Alexandria, VA 22313-1450**

Sir:

This Information Disclosure Statement is filed in accordance with 37 C.F.R. §§1.56, 1.97 and 1.98. The items listed on Form PTO-1449, a copy of which is enclosed, may be deemed to be pertinent to the above-identified application and are made of record to assist the Patent and Trademark Office in its examination of this application. The Examiner is respectfully requested to fully consider the items and to independently ascertain their teaching.

1. ☐ For each of the following items listed on the enclosed copy of Form PTO-1449 that is not in the English language, an English language translation of that item or a portion thereof or a concise explanation of the relevance of that item is enclosed:  

---
2. ☐ For each of the following items listed on the enclosed copy of Form PTO-1449 that is not in the English language, a concise explanation of the relevance of that item is incorporated in the specification of the above-identified application.
3. ☒ Any copy of the items listed on the enclosed copy of Form PTO-1449 that is not enclosed with this Information Disclosure Statement was previously cited by or submitted to the Patent and Trademark Office in the prior [ ] Continuation, [X] Divisional or [ ] Continuation-In-Part application under 37 C.F.R. §1.60, U.S. Serial No. 09/902,878, filed July 11, 2001.
4. ☒ No fee is due under 37 C.F.R. §1.17(p) for this Information Disclosure Statement since it is being filed in compliance with:

- ☒ 37 C.F.R. §1.97(b)(1), within three months of the filing date of the above-identified application.
- ☐ 37 C.F.R. §1.97(b)(2), within three months of the date of entry into the national stage as set forth in §1.491 in an international application.
- ☐ 37 C.F.R. §1.97(b)(3), before the mailing date of a first Office action on the merits.
5. ☐ No fee is due under 37 C.F.R. §1.17(p) for this Information Disclosure Statement since it is being filed in compliance with 37 C.F.R. §1.97(c), after the period specified in paragraph 4 above but before the mailing date of a final action or a Notice of Allowance (where there has been no prior final action), and is accompanied by one of the certifications pursuant to 37 C.F.R. §1.97(e) set forth in paragraph 9 below.
6. ☐ A fee is due under 37 C.F.R. §1.17(p) for this Information Disclosure Statement since it is being filed in compliance with 37 C.F.R. §1.97(c), after the period specified in paragraph 4 above but before the mailing date of a final action or a notice of allowance (where there has been no prior final action):
- ☐ A check in the amount of \$180.00 is enclosed in payment of the fee.
- ☐ Charge the fee to Deposit Account No. 13-3250. Order No. 36080-00802. A DUPLICATE COPY OF THIS SHEET IS ATTACHED.
7. ☐ A fee is due under 37 C.F.R. §1.17(i)(1) for this Information Disclosure Statement since it is being filed in compliance with 37 C.F.R. §1.97(d), after the mailing date of a final action or a notice of allowance, whichever comes first, but before payment of the issue fee, and is accompanied by:
- a. one of the certifications pursuant to 37 C.F.R. §1.97(e) set forth in paragraph 9 below; and
- b. the attached petition requesting consideration of this Information Disclosure Statement; and
- c. the fee due under 37 C.F.R. §1.17(i)(1) which is paid as set forth in paragraph 10 below.
8. ☐ A fee is due under 37 C.F.R. §1.17(i)(1) for this Information Disclosure Statement since it is being filed in compliance with:
- a. ☐ 37 C.F.R. §1.313(b)(3), after the issue fee has been paid and information cited in this Information Disclosure Statement may render at least one claim unpatentable and is accompanied by the attached Petition To Withdraw Application From Issue;

b. ☐ 37 C.F.R. §1.313(b)(5), after the issue fee has been paid and information cited in this Information Disclosure Statement is to be considered in a Continuation application upon abandonment of the instant application and is accompanied by the attached Petition To Withdraw Application From Issue.

c. The fee due under 37 C.F.R. §1.17(i)(1) is paid as set forth in paragraph 10 below.

9. ☐ I hereby certify that each item of information contained in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Information Disclosure Statement.

☐ I hereby certify that no item of information in the Information Disclosure Statement filed herewith was cited in a communication from a foreign patent office in a counterpart foreign application or, to my knowledge after making reasonable inquiry, was known to any individual designated in §1.56(c) more than three months prior to the filing of this Information Disclosure Statement.

10. ☐ A check in the amount of \$180.00 is enclosed in payment of the fee due under 37 C.F.R. §1.17(p).

☐ Charge the fee due under 37 C.F.R. §1.17(i)(1) to Deposit Account No. 13-3250. Order No. 36080-00802. A DUPLICATE COPY OF THIS SHEET IS ATTACHED.

☐ The Assistant Commissioner is hereby authorized to charge any additional fees which may be required for this Information Disclosure Statement, or credit any overpayment to Deposit Account No. 13-3250. Order No. 36080.00802. A DUPLICATE COPY OF THIS SHEET IS ATTACHED.

Respectfully submitted,  
MILBANK, TWEED, HADLEY & McCLOY LLP



---

Christopher J. Gaspar  
Reg. No.: 41,030

March 18, 2004

Milbank, Tweed, Hadley & McCloy LLP  
1 Chase Manhattan Plaza  
New York, NY 10005-1413  
(212) 530-5000 / (212) 530-5219 (facsimile)  
NY2:#4583557

<b>FORM PTO-1449</b> <b>U.S. DEPARTMENT OF COMMERCE</b> <b>PATENT AND TRADEMARK OFFICE</b>  <b>INFORMATION DISCLOSURE CITATION</b>  (Use several sheets if necessary)	<b>ATTY. DOCKET NO.</b> 36080-00800	<b>SERIAL NO.</b> 09/902,878
	<b>APPLICANT</b> Edward G. Combs et al.	
	<b>FILING DATE</b> July 11, 2002	<b>GROUP ART UNIT</b> 2827

### U.S. PATENT DOCUMENTS

EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	3,908,075	9/1975	Jackson et al.			
	3,942,245	3/1976	Jackson et al.			
	4,501,960	2/1985	Jouvet et al.			
	4,674,175	6/1987	Stamfli			
	4,701,781	10/1987	Sankhagowit			
	4,975,765	12/1990	Ackermann et al.			
	5,023,202	6/1991	Long et al.			
	5,041,395	8/1991	Steffen			
	5,122,860	6/1992	Kikuchi et al.			
	5,157,475	10/1992	Yamaguchi			
	5,175,612	12/1992	Long et al.			
	5,285,105	2/1994	Cain			
	5,334,857	8/1994	Mennitt et al.			
	5,366,933	11/1994	Golwalkar et al.			
	5,420,460	5/1995	Massingill			
	5,474,957	12/1995	Urushima			
	5,482,736	1/1996	Glenn et al.			

EXAMINER

DATE CONSIDERED

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

FORM PTO-1449		U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE		ATTY. DOCKET NO. 36080-00800		SERIAL NO. 09/902,878	
<b>INFORMATION DISCLOSURE CITATION</b>  (Use several sheets if necessary)				APPLICANT Edward G. Combs et al.			
				FILING DATE July 11, 2002		GROUP ART UNIT 2827	
U.S. PATENT DOCUMENTS							
EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
		5,482,898	1/1996	Marrs			
		5,556,807	9/1996	Bhattacharayya et al.			
		5,596,231	1/1997	Combs			
		5,596,485	1/1997	Glenn et al.			
		5,672,909	9/1997	Glenn et al.			
		5,796,163	9/1998	Glenn et al.			
		5,867,368	2/1999	Glenn			
		5,886,397	3/1999	Ewer			
		5,894,108	4/1999	Mostafazadeh et al.			
		5,900,676	5/1999	Kweon et al.			
		5,905,304	5/1999	Ewer et al.			
		5,939,784	8/1999	Glenn			
		5,949,655	9/1999	Glenn			
		5,950,074	9/1999	Glenn et al.			
		5,962,810	10/1999	Glenn			
		5,981,314	11/1999	Glenn et al.			
		6,034,429	3/2000	Glenn et al.			
		6,081,029	6/2000	Yamaguchi			
		6,092,281	7/2000	Glenn			
EXAMINER				DATE CONSIDERED			
EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.							

FORM PTO-1449		U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE		ATTY. DOCKET NO. 36080-00800		SERIAL NO. 09/902,878	
<b>INFORMATION DISCLOSURE CITATION</b>  (Use several sheets if necessary)				APPLICANT Edward G. Combs et al.			
				FILING DATE July 11, 2002		GROUP ART UNIT 2827	
U.S. PATENT DOCUMENTS							
EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
		6,117,193	9/2000	Glenn			
		6,117,705	9/2000	Glenn et al.			
		6,143,588	11/2000	Glenn			
		6,150,193	11/2000	Glenn			
		6,198,163	3/2001	Crowley et al.			
		6,214,644	4/2001	Glenn			
		6,228,676	5/2001	Glenn et al.			
		6,242,281	6/2001	McLellan et al.			
		6,246,566	6/2001	Glenn			
		6,258,629	7/2001	Niones et al.			
		6,266,197	7/2001	Glenn et al.			
		6,274,927	8/2001	Glenn			
		6,281,241	8/2001	Elsner			
		6,281,568	8/2001	Glenn et al.			
		6,285,075	9/2001	Combs et al.			
		6,291,884	9/2001	Glenn et al.			
		6,294,100	9/2001	Fan et al.			
<b>EXAMINER</b>				<b>DATE CONSIDERED</b>			
EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.							

<b>FORM PTO-1449</b> <b>U.S. DEPARTMENT OF COMMERCE</b> <b>PATENT AND TRADEMARK OFFICE</b>  <b>INFORMATION DISCLOSURE CITATION</b>  (Use several sheets if necessary)	<b>ATTY. DOCKET NO.</b> 36080-00800	<b>SERIAL NO.</b> 09/902,878
	<b>APPLICANT</b> Edward G. Combs et al.	
	<b>FILING DATE</b> July 11, 2002	<b>GROUP ART UNIT</b> 2827

### U.S. PATENT DOCUMENTS

EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	6,294,830	9/2001	Fielstad			
	6,326,678	12/2001	Kamezos et al.			
	6,395,578	5/2002	Shin et al.			
	6,429,048	8/2002	McLellan et al.			
	6,429,508	8/2002	Gang			
	6,444,498	11/2002	Huang et al.			
	6,452,255	9/2002	Bayan et al.			
	6,458,626	10/2002	Huang et al.			
	6,498,099	12/2002	McLellan et al.			
	6,507,102	1/2003	Juskey et al.			
	6,552,417	4/2003	Combs			
	6,556,740	5/2003	Yasunaga et al.			
	2002/0079570	1/2002	Ho et al.			

### FOREIGN PATENT DOCUMENTS

--	--	--	--	--	--	--	--	--	--

### OTHER DOCUMENTS (including author, title, date, pertinent papers etc.)

		U.S. Patent Application No. 10/062,650 filed January 31, 2002 2001 by McLellan et al.
		U.S. Patent Application No. 10/062,896 filed January 31, 2002 by Pedron et al.
		U.S. Patent Application No. 10/104,263 filed March 22, 2002 by Combs et al.
		U.S. Patent Application No. 10/178,372 filed June 24, 2002 by Pedron et al.

**EXAMINER****DATE CONSIDERED**

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<b>FORM PTO-1449</b> <b>U.S. DEPARTMENT OF COMMERCE</b> <b>PATENT AND TRADEMARK OFFICE</b>  <b>INFORMATION DISCLOSURE CITATION</b>  (Use several sheets if necessary)	<b>ATTY. DOCKET NO.</b> 36080.00800	<b>SERIAL NO.</b> 09/902,878
	<b>APPLICANT</b> Edward G. Combs et al.	
	<b>FILING DATE</b> July 11, 2001	<b>GROUP ART UNIT</b> 2827

### U.S. PATENT DOCUMENTS

EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	5,172,213	12/15/92	Zimmerman			
	5,485,037	1/16/96	Marrs			
	5,620,928	4/15/97	Lee et al.			
	5,679,978	10/21/97	Kawahara et al.			
	5,693,572	12/2/97	Bond et al.			
	5,854,511	12/29/98	Shin et al.			
	6,091,603	7/18/00	Daves et al.			
	6,104,086	8/15/00	Ichikawa et al.			
	6,236,568	5/22/01	Lai et al.			
	6,265,771	7/24/01	Ference et al.			
	6,396,143	5/28/02	Kimbara et al.			
	6,433,360	8/13/02	R. Dosdos et al.			

EXAMINER

DATE CONSIDERED

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.



**Notice of References Cited**

Application/Control No.

09/902,878

Applicant(s)/Patent Under  
Reexamination  
COMBS ET AL.

Examiner

Alonzo Chambliss

Art Unit

2827

Page 1 of 1

**U.S. PATENT DOCUMENTS**

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
	A	US-5,172,213	12-1992	Zimmerman	257/796
	B	US-6,236,568	05-2001	Lai et al.	361/704
	C	US-6,265,771	07-2001	Ference et al.	257/706
	D	US-6,091,603	07-2000	Daves et al.	361/704
	E	US-5,854,511	12-1998	Shin et al.	257/713
	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

**FOREIGN PATENT DOCUMENTS**

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

**NON-PATENT DOCUMENTS**

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

\*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)  
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

**INFORMATION DISCLOSURE CITATION**  
(Use several sheets if necessary)

ATTY DOCKET NO.  
36080.00

SERIAL NO.  
TBA

Edward G. Combs et al.

FILING  
Herewith

GROUP  
TBA

**U.S. PATENT DOCUMENTS**

*EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	6,219,238 B1	4/17/01	Andros et al.			
	6,212,070 B1	4/3/01	Atwood et al.			
	6,069,023	5/30/00	Bernier et al.			
	6,049,125	4/11/00	Brooks et al.			
	5,736,785	4/7/98	Chiang et al.			
	5,596,231	1/21/97	Combs			
	5,672,548	9/30/97	Culnane et al.			
	6,127,724	10/3/00	DiStefano			
	6,206,997 B1	3/27/01	Egitto et al.			
	6,081,028	6/27/00	Ettehadieh et al.			
	6,028,354	2/22/00	Hoffmann			

**FOREIGN PATENT DOCUMENTS**

	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
						YES	NO
	US 2001/0000927 A1	5/10/01	PCT				

**OTHER DOCUMENTS** (Including Author, Title, Date, Pertinent Pages, Etc.)


EXAMINER

DATE CONSIDERED

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

**INFORMATION DISCLOSURE CITATION**  
(Use several sheets if necessary)

ATTY DOCKET NO.  
36080.00

SERIAL NO.  
TBA

Edward G. Combs et al.

FILING  
Herewith

GROUP  
TBA

**U.S. PATENT DOCUMENTS**

*EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	6,208,519 B1	23/27/01	Jiang et al.			
	5,789,813	8/4/98	Kirkland et al.			
	5,982,621	11/9/99	Li			
	6,163,458	12/19/00	Li			
	5,175,612	12/29/92	Long et al.			
	6,229,200 B1	5/8/01	McLellan et al.			
	5,650,593	7/22/97	McMillan et al.			
	5,940,271	8/17/99	Mertol			
	6,011,304	1/4/00	Mertol			
	6,165,612	12/26/00	Misra			
	5,986,340	11/16/99	Mostafazadeh et al.			

**FOREIGN PATENT DOCUMENTS**

	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
						YES	NO

**OTHER DOCUMENTS** (Including Author, Title, Date, Pertinent Pages, Etc.)


EXAMINER

DATE CONSIDERED

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

**INFORMATION DISCLOSURE CITATION**  
(Use several sheets if necessary)

ATTY DOCKET NO.  
36080.00

SERIAL NO.  
TBA

Edward G. Combs et al.

FILING  
Herewith

GROUP  
TBA

**U.S. PATENT DOCUMENTS**

*EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	6,196,002 B1	3/6/01	Newman et al.			
	6,097,101	8/1/00	Sato et al.			
	6,111,324	8/29/00	Sheppard et al.			
	6,222,263 B1	4/24/01	Sherif et al.			
	5, 807,768	9/15/98	Shin			
	5,854,511	12/29/98	Shin et al.			
	5,729,432	3/17/98	Shim et al.			
	5,708,567	1/13/98	Shim et al.			
	6,191,360 B1	2/20/01	Tao et al.			
	6,229,702 B1	5/8/01	Tao et al.			
	5,874,321	2/23/99	Templeton Jr. et al.			

**FOREIGN PATENT DOCUMENTS**

	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
						YES	NO

**OTHER DOCUMENTS** (Including Author, Title, Date, Pertinent Pages, Etc.)


EXAMINER

DATE CONSIDERED

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

# **INFORMATION DISCLOSURE CITATION**

*(Use several sheets if necessary)*

ATTY DOCKET NO.

36080.008

SERIAL NO.

TBA

Edward G. Combs et al.

FILING

Herewith

GROUP

TBA

## **U.S. PATENT DOCUMENTS**

*EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
		5,986,336	11/16/99	Tomita			
		6,162,849	12/19/00	Zhuo et al.			

## **FOREIGN PATENT DOCUMENTS**

		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
							YES	NO

## **OTHER DOCUMENTS** *(Including Author, Title, Date, Pertinent Pages, Etc.)*


EXAMINER	DATE CONSIDERED
----------	-----------------

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

# **Notice of References Cited**

Application/Control No.

09/902,878

Applicant(s)/Patent Under

Reexamination

COMBS ET AL.

Examiner

Alonzo Chambliss

Art Unit

2827

Page 1 of 1

## **U.S. PATENT DOCUMENTS**

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
	A	US-6,458,626	10-2002	Huang et al.	438/112
	B	US-6,444,498	09-2002	Huang et al.	438/126
	C	US-			
	D	US-			
	E	US-			
	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

## **FOREIGN PATENT DOCUMENTS**

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

## **NON-PATENT DOCUMENTS**

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

\*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)  
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

<b>FORM PTO-1449</b> <b>U.S. DEPARTMENT OF COMMERCE</b> <b>PATENT AND TRADEMARK OFFICE</b>  <b>INFORMATION DISCLOSURE CITATION</b>  (Use several sheets if necessary)	<b>ATTY. DOCKET NO.</b> 36080-00800		<b>SERIAL NO.</b> 09/902,878
	<b>APPLICANT</b> Edward G. COMBS, et al.		
	<b>FILING DATE</b> July 11, 2001		<b>GROUP ART UNIT</b> 2827

### U.S. PATENT DOCUMENTS

EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE

### FOREIGN PATENT DOCUMENTS

	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
						YES	NO
	3-198368	8/29/91	Japan			X	
	2 609 841	1/20/87	France			X	

### OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Papers, Etc.)

		English Translation of JP Laid Open Patent Application No. 3-198368 (3 pages)
		English Translation of French Publication No. 2 609 841 (14 pages)

<b>EXAMINER</b>	<b>DATE CONSIDERED</b>
-----------------	------------------------

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.